

HAKAN YILDIZ
Assistant Professor
Department of Supply Chain Management
Eli Broad College of Business
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Academic Work Experience

- Jan. 2009 - Present Assistant Professor, Dept. of Supply Chain Management, Eli Broad College of Business, Michigan State University
- Aug. 2008 - Dec. 2008 Visiting Assistant Professor, Dept. of Supply Chain Management, Eli Broad College of Business, Michigan State University
- Aug. 2002 - Aug. 2008 Graduate Assistant, Tepper School of Business, Carnegie Mellon University
- Aug. 2001 - May 2002 Teaching Assistant, Dept. of Industrial Engineering, Univ. of Pittsburgh
- Sep. 2000 - May 2001 Teaching Assistant, Dept. of Industrial Engineering, Bilkent University

Education

- PhD, Industrial Administration (Operations Research), Carnegie Mellon University, 2008. Dissertation: *Methodologies and Applications for Scheduling, Routing and Related Problems*. Advisor: Michael Trick.
- MS, Industrial Administration (Operations Research), Carnegie Mellon University, 2004.
- BS, Industrial Engineering, Bilkent University, 2000.

Research Interests

Logistics and supply chain optimization, resource (personnel, vehicle) scheduling & routing, talent supply chain management, supply chain risk management and network design.

Peer-Reviewed Publications

- S. Talluri, T. Kull, **H. Yildiz**, and Jiho Yoon, Assessing the Efficiency of Risk Mitigation Strategies in Supply Chains. *Journal of Business Logistics*, vol.34, no. 4, pp. 253-269, 2013.
- **H. Yildiz**, M.P. Johnson and S. Roehrig, Planning for Meals-on-Wheels: Algorithms and Application. *Journal of the Operational Research Society*, 64 (10), 1540–1550, October 2013.
- M. A. Trick, **H. Yildiz** and T. Yunes, Scheduling Major League Baseball Umpires and the Traveling Umpire Problem. *Interfaces*, 42, 232–244, May/June 2012. (*author names in alphabetical order*)

- M.A. Trick and **H. Yildiz**, Locally Optimized Crossover for the Traveling Umpire Problem. *European Journal of Operational Research*, 216(2), 286-292, January 2012. (author names in alphabetical order)
- M.A. Trick and **H. Yildiz**, Benders' Cuts Guided Large Neighborhood Search for the Traveling Umpire Problem. *Naval Research Logistics*, 58(8), 771-781, December 2011. (author names in alphabetical order)
- **H. Yildiz**, R. Ravi and W. Fairey, Integrated Optimization of Customer and Supplier Logistics at Robert Bosch LLC. *European Journal of Operational Research*, 207(1), 456-464, 2010

Peer-Reviewed Conference Proceedings

- H. Yildiz, R. Ravi and W. Fairey, Optimization of Customer and Supplier Logistics at Robert Bosch LLC. In *Proceedings of the CSCMP Educators' Conference, 2009, Chicago, IL*.
- M.A. Trick and H. Yildiz, Bender's Cuts Guided Large Neighborhood Search for The Traveling Umpire Problem, in CP-AI-OR 2007, P. Van Hentenryck and L. Wolsey (Eds.), Lecture Notes in Computer Science, No. 4510, pp. 332-345, Springer, 2007. *Acceptance rate for CPAIOR: ~1/3*
- M.A. Trick and H. Yildiz, A Large Neighborhood Search Heuristic for Graph Coloring, in CP-AI-OR 2007, P. Van Hentenryck and L. Wolsey (Eds.), Lecture Notes in Computer Science, No. 4510, pp. 346-360, Springer, 2007. *Acceptance rate for CPAIOR: ~1/3*.
- H. Yildiz, M.P. Johnson and S. Roehrig, Policy Implications of a Planning Model for Home-Delivered Meals, in *Proceedings of the MSOM Conference, 2006, Atlanta, Georgia*.

Research Grants

- Midland Research Institute for Value Creation, *A Methodology for Monitoring Efficiency of Supply Chain Network Design* (with Srinivas Talluri), 2014, **Amount funded: \$58360**
- Eli Broad College of Business Summer Research Grant, Michigan State University, *Resource Routing and Scheduling in Services Industry*, 2014, **Amount funded: \$10000**
- Eli Broad College of Business Summer Research Grant, Michigan State University, *Planning for Equipment Rentals in the Entertainment Industry*, 2013, **Amount funded: \$8000**
- Kelly OCG Inc., *Value Drivers and Productivity in Talent Supply Chain Management*, (with D. Closs and S. Narayanan), 2012-2013, **Amount funded: \$33,765** (Yildiz portion: \$10,129.5).
- Eli Broad College of Business Summer Research Grant, Michigan State University, *Reliable and Robust Supply Chain Network Design*, 2012, **Amount funded: \$7000**
- Qatar Foundation, *A Framework for Upstream Natural Gas Supply Chain Design: LNG Distribution Network*, (with F. Mutlu, S. Pokharel and R. Ravi), 2012-2015, **\$629,737.44**

- Kelly OCG Inc., *Cycle Time Analysis for Talent Supply Chain Management*, (with D. Closs and S. Narayanan), 2011, **Amount funded: \$11,500**. (Yildiz portion: \$3,450)
- Center for Packaging Innovation and Sustainability, Michigan State University, *Economic Viability and Sustainability of Returnable versus Single-Use Packaging Systems*, (with R. Clarke and J. Macdonald), 2011-2012, **Amount funded: \$57,656** (Yildiz portion: \$3,738)

Presentations (Bold indicates presenter)

- **Yildiz, H.**, Yoon, J., and Talluri, S., "Reliable Supply Chain Network Design", *INFORMS Southeast Michigan Symposium, November 2013, Detroit, MI*.
- **Yildiz, H.**, "Planning for Equipment Rentals and the Traveling Equipment Problem", *INFORMS Annual Conference, October 2013, Minneapolis, MN*.
- **Yildiz, H.**, Trick, M., and Yunes, T., "Traveling Umpire Problem: A New Challenging Test-Bed for Optimization", *Turkish Operations Research and Industrial Engineering Conference, June 2012, Istanbul, Turkey*
- **Yildiz, H.**, Talluri, S., and Closs, D., "Reliable and Robust Supply Chain Network Design", *European DSI Conference, June 2012, Istanbul, Turkey*
- **Yildiz, H.**, Talluri, S., and Closs, D., "Reliable Supply Chain Network Design", *POMS Annual Conference, April 2012, Chicago, IL*.
- **Yildiz, H.**, Talluri, S. and Kull, T., "Efficacies of Risk Mitigation Strategies in Supply Chains", *POMS Annual Conference, April 2012, Chicago, IL*.
- **Kull, T.**, Talluri, S. and Yildiz, H., "Efficiencies of Risk Mitigation Strategies Across Various Supply Chain Disruptions", *DSI Annual Conference, November 2011, Boston, MA*.
- **Yildiz, H.**, Talluri, S., and Closs, D., "Reliable Supply Chain Network Design", *INFORMS Annual Conference, November 2011, Charlotte, NC*.
- **Mutlu, F.**, and Yildiz, H., "A Framework for Upstream Natural Gas Supply Chain Design: LNG Distribution Network", *INFORMS Annual Conference, November 2011, Charlotte, NC*.
- **Yildiz, H.**, Talluri, S., and Closs, D., "Reliable Supply Chain Network Design", *INFORMS Annual Conference, November 2011, Charlotte, NC*.
- **Yildiz, H.**, "Supply Chain Network Strategy", *Invited Talk, 6th International Procurement, Logistics and Supply Chain Management Summit, October 2010, Istanbul, Turkey*
- **Yildiz, H.**, "Analytical Methods for Supply Chain Management", *Workshop, 6th International Procurement, Logistics and Supply Chain Management Summit, October 2010, Istanbul, Turkey*
- **Yildiz, H.**, "Designing the Supply Chain Network", *Invited Talk, 5th International Procurement, Logistics and Supply Chain Management Summit, October 2009, Istanbul, Turkey*

- **Yildiz, H.**, “Decision Making Models for Supply Chain Management”, *Workshop, 5th International Procurement, Logistics and Supply Chain Management Summit, October 2009, Istanbul, Turkey*
- **Trick, M.**, and Yildiz, H., “Locally Optimized Crossover for the Traveling Umpire Problem”, *Invited Talk, Inform's Annual Conference, October 2009, San Diego, CA.*
- **Yildiz, H.**, Ravi, R. and Fairey, W., “Optimization of Customer and Supplier Logistics at Bosch”, *CSCMP Educators' Conference, September 2009, Chicago, IL.*
- **Yildiz, H.**, Trick, M., and Yunes, T., “Scheduling Major League Baseball Umpires and the Traveling Umpire Problem”, *DSI Annual Conference, November 2008, Baltimore, MD.*
- **Yildiz, H.** and Ravi, R., “Optimization of Customer and Supplier Logistics at a Large Automotive Parts Manufacturer”, *Inform's Annual Conference, October 2008, Washington, DC.*
- **Yildiz, H.** and Trick, M., “Logical Bender's Cuts Guided Local Search and a Greedy Heuristic for the Traveling Umpire Problem”, *Invited Talk, Inform's Annual Conference, November 2007, Seattle, WA.*
- **Trick, M.**, Yildiz, H., and Yunes, T., “Scheduling Umpires,” *Invited Talk, EURO XXII, July 2007, Prague, Czech Republic.*
- **Yildiz, H.** and Trick, M., “Bender's Cuts Guided Large Neighborhood Search for The Traveling Umpire Problem,” *CP-AI-OR, May 2007, Brussels, Belgium.*
- **Yildiz, H.** and Trick, M., “A Large Neighborhood Search Heuristic for Graph Coloring,” *CP-AI-OR, May 2007, Brussels, Belgium.*
- **Yildiz, H.** and Trick, M., “The Traveling Umpire Problem,” *Invited Talk, Inform's Annual Conference, November 2006, Pittsburgh, PA.*
- **Yildiz, H.**, Johnson, M.P., and Roehrig S., “Policy Implications of a Planning Model for Home-Delivered Meals,” *MSOM Conference, June 2006, Atlanta, GA.*
- **Yildiz, H.** and Johnson, M.P. “Policy Implications of a Planning Model for Home-Delivered Meals,” *Invited Talk, Inform's Annual Conference, November 2005, San Francisco, CA.*
- **Yildiz, H.**, Johnson, M.P., and Roehrig S., “A Genetic Algorithm for the Home-Delivered Meals Location Routing Problem,” *Invited Talk, IFORS Triennial 2005 Conference, Honolulu, HI.*
- **Yildiz, H.** and Trick, M., “A Large Neighborhood Search Heuristic for Graph Coloring,” *Invited Talk, Inform's Annual Conference, October 2004, Denver, CO.*

Unpublished Reports

- Mutlu, F. and Guner, A.R. and **Yildiz, H.** and Ravi, R. and Pokharel, S., “A framework for upstream natural gas supply chain design: LNG distribution network,” Qatar Foundation Annual Research Forum, 2012.

- Closs, D., Narayanan, S., and **Yildiz, H.**, “Cycle Time Analysis for Talent Supply Chain Management,” report prepared based on the data provided by Kelly OCG, 2012.

In the Popular Press

Quoted in *MHI Solutions Magazine*, Volume 2, Issue 1, 2014 (<http://bit.ly/1gE34cO>)

Paper on MLB umpire scheduling covered in 2011 in various news outlets:

Scientific American, *United Press International*, *Business Miami Magazine*, *WAMC Northeast Public Radio Academic Minute*, *Miami New Times*, *phys.org*, *HPCwire.com*, *thepostgame.com*, *sciencedaily.com*, *futurity.org*, *esciencenews.com*,

Graduate Student Activity

- Ph.D. Committee Member: Christopher L. Fleming (Logistics), Jiho Yoon (Operations Management),
- M.S. in Supply Chain Management Thesis Advisor: Ben Binatebe, Mark Ford

Teaching Interests

Logistics; Transportation; Decision Making Models; Optimization; Metaheuristics

Teaching Experience

Instructor

@ Eli Broad College of Business, Michigan State University

- » Logistics and Transportation Management, BA Core, Spring 2013
- » Transportation Management, BA Elective, Every semester since Fall 2008.

@ Tepper School of Business, Carnegie Mellon University

- » Optimization Models for Logistics, MBA elective, Spring 2007.
- » Logistics and Supply Chain Management, BA elective, Spring 2007.
- » OR Models for Routing and Distribution, MBA elective, Spring 2006.

Guest Lecturer

@ Eli Broad College of Business, Michigan State University

- » “Network Models and Optimization,” in Logistics and Public Policy, PhD core (Patricia Daugherty, instructor), September 24, 2013.
- » “Metaheuristics,” in SCM Applied Decision Models, PhD (Srinivas Talluri, instructor), March 28, 2013.
- » “Vehicle Routing,” in Logistics and Transportation Management, BA core (Yemisi Bolumole, instructor), April 11, 2013.
- » “Network Analysis Research,” in Logistics and Public Policy, PhD core (David Closs, instructor), November 28, 2011.
- » “Optimization Methods for Logistics,” in Logistics and Public Policy, PhD core (Ed Morash, instructor), November 7, 2008.

@ H. John Heinz III School of Public Policy and Management, Carnegie Mellon University

- » “Local Search and Genetic Algorithms,” in Operations Research for the Public Sector, MS Elective, (Michael P. Johnson, instructor), November 15, 2006.

Teaching Assistant

- » Many MBA and Undergraduate level Operations Research and Management classes.

Service to Academic Profession

- *Secretary:* INFORMS Southeast Michigan Chapter, 2014-
- *Track Co-Chair:* CSCMP Educators' Conference, Chicago, IL, 2009
- *Panel Participant:*
 - Logistics/Supply Chain Doctoral Symposium (2009)
 - INFORMS Future Academician Colloquium (2013)
- *Scientific Committee Member:* 9th International Logistics & Supply Chain Congress, Izmir, Turkey, 2011
- *Session Chair:*
 - INFORMS Annual Conference, Washington, DC, 2008
 - DSI Annual Conference, Boston, MA, 2011
 - POMS Conference, Chicago, IL, 2012
 - Turkish Operations Research and Industrial Engineering Conference, Istanbul, Turkey, 2012
- *Judge:* Society of Logistics Engineers, Doctoral Dissertation Proposal Award, 2009-2011
- *Reviewer:*
 - Journal of Business Logistics
 - Decision Sciences Journal
 - European Journal of Operational Research
 - IEEE Transactions on Engineering Management
 - International Journal on Production Economics
 - Journal of Operational Research Society
 - Computers and Operations Research
 - Optimization. A Journal of Mathematical Programming and Operations Research.
 - International Transactions in Operational Research
 - Global Supply Chain Conference, 2013
 - DSI Annual Meeting, 2009

Service to Michigan State University

- Faculty Grievance Hearing Panel (2010)
- Undergraduate Interest Group (2010)
- Ad-hoc departmental committee for department strategy (2012-2014)

Professional Affiliations

- Institute for Operations Research and the Management Sciences (INFORMS)
- Council of Supply Chain Management Professionals (CSCMP)

Awards and Honors

- DSI Doctoral Consortium participant, 2007.
- INFORMS Doctoral Colloquium participant, 2007.
- William Larimer Mellon Fellowship for doctoral studies at Carnegie Mellon University, 2002 – 2005.
- Full academic scholarship for graduate studies, Bilkent University, 2000 – 2001.
- Full academic scholarship for undergraduate studies, Bilkent University, 1996 – 2000.
- Ranked 10th out of 41,000 in the Graduate School Admission Examination in Mathematical Sciences in Turkey, 1999.
- Ranked 4th in the first stage, and ranked 9th in the second stage of the University Admission Examination in Turkey among more than one million examinees, 1996.